

Panelist Biographies

William Allen is a senior marketing executive with Texas Instruments' RFID group, and a leading spokesman before industry associations and government agencies on issues surrounding RFID technology and applications from wireless payment to new EPC supply chain initiatives. Bill is chairman of the RFID Action Group for AIM, Inc., the global trade association of the automatic identification industry. Bill also heads the RFID privacy taskforce and is widely quoted in industry journals and business publications on topics ranging from the future of RFID to the consumer protection and technology safeguards. At Texas Instruments RFid Systems, Bill directs the company's strategic alliances and marketing programs.

Phillip J. Bond was sworn in as Under Secretary of Commerce for Technology on October 30, 2001. He was nominated by President George W. Bush on September 4, and confirmed by the United States Senate on October 23, 2001. From January 2002 through January 2003, Bond served concurrently as Chief of Staff to Commerce Secretary Don Evans. In his dual role, Bond worked closely with the Secretary to increase market access for US goods and services and further advance America's technological leadership at home and around the world. Under Secretary Bond serves as the principal advisor to Secretary Evans on science and technology policy to maximize technology's contribution to America's economic growth. In this context, Mr. Bond's primary responsibilities are to supervise policy development and direction among the Office of Technology Policy (OTP), the National Institute of Standards and Technology (NIST), and the National Technical Information Service (NTIS). He also serves on four committees of the President's National Science and Technology Council (NSTC), a Cabinet-level council established by the President to coordinate science, space, and technology policy within the Federal research and development enterprise. One of Mr. Bond's top priorities has been to transform the Technology Administration into the pre-eminent portal between the federal government and the U.S. technology industry. In that regard, he directs TA efforts to advocate on behalf of U.S. technology in the federal policy-making process. Some of the high priority issues that he is involved in include support for American innovation and entrepreneurship; the converging fields of nanotechnology, biotechnology, information technology and the cognitive sciences; strengthening U.S. technology cooperation with other countries, especially in areas such as standards development; education and training of a high tech U.S. workforce; and an array of issues of concern to the telecommunications and information technology industries. Mr. Bond was recognized in *Scientific American* Tech Leaders of 2003 (December 2003) for promoting nanotechnology effectively within the executive branch. His experience in the private sector includes serving as Director of Federal Public Policy for the Hewlett-Packard Company, a position he held immediately before joining Commerce, and previously serving as Senior Vice President for Government Affairs and Treasurer of the Information Technology Industry Council. From 1993 to 1998, Phil Bond served as Chief of Staff to Congresswoman Jennifer Dunn (R-WA). He was Principal Deputy Assistant Secretary of Defense for Legislative Affairs from 1992 to 1993 for then-Defense Secretary Dick Cheney. Earlier, he was Chief of Staff and Rules Committee Associate for Congressman Bob McEwen (R-OH) from 1990 to 1992. From 1987 to 1990, he served as Special Assistant to the Secretary of Defense for Legislative Affairs. He is a graduate of Linfield College in Oregon. Technology Administration.

Brad Bass serves as the analyst relations manager for HP Manufacturing & Distribution Industries. He is responsible for all outreach and interaction with industry analysts related to HP's business with manufacturing, logistics/transportation, and retail customers. His focus includes activities with HP customers in automotive, pharmaceutical, high-tech, energy and consumer packaged goods industries, with a focus on solutions such as supply chain management, product lifecycle management and radio frequency identification. Brad has worked for 20 years in journalism, public relations and analyst relations in the information technology and telecommunications fields. He has been a staff writer and reporter for *Government Computer News*; editor of *411*, a telecommunications newsletter; and a reporter and associate editor for *Federal Computer Week*. Before coming to HP, he was public relations manager for Sprint Government Systems Division. In 2000, he accepted the position of communications manager for HP Public Sector Organization and later managed PR for HP Services worldwide. He took his present job in the HP Manufacturing & Distribution Industries organization in 2004. Brad received a bachelor's degree in mass communications from University of Maryland (College Park) and continued his education in journalism at Towson State University. He lives in Rockville, Md.

Paula Bruening is Staff Counsel for the Center for Democracy and Technology. CDT is a non-profit, public interest organization that is dedicated to developing and implementing public policies to protect civil liberties and democratic values on the Internet. In her work at CDT she focuses on privacy and defense of the First Amendment on the Internet. Prior to her arrival at CDT, she was the Director of Compliance and Policy for TRUSTe, the online privacy seal program, where she was responsible for compliance and for working with the government on evolving privacy policy. While with TRUSTe, she served on the Federal Trade Commission Advisory Committee on Access and Security. Before that, Ms. Bruening was Senior Attorney-Advisor for the Office of Chief Counsel, National Telecommunications and Information Administration, US Department of Commerce, where she worked closely with the White House to advise the Clinton Administration on a wide range of domestic and international electronic commerce and Internet issues. She began her work in information policy at the US Congress Office of Technology Assessment, where she authored *Protecting Privacy in Computerized Medical Information*, and was co-author of *Information Security and Privacy in Networked Environments* and *Finding a Balance: Computer Software, Intellectual Property and the Challenge of Technological Change*. Ms Bruening served as an onsite consultant to the Organization for Economic Cooperation

and Development (OECD) in Paris, France, and has written and spoken extensively on information policy issues in the US and in Europe. Her recent publications include *Consumer Privacy In the Electronic Marketplace*, and *Is Privacy Possible in the 21st Century?* published by the New School for Social Research. Ms. Bruening began her career in the practice of intellectual property law with Cushman, Darby & Cushman in Washington, DC. She holds a bachelor's degree from John Carroll University and earned her law degree from Case Western Reserve University School of Law.

Dan Caprio, Jr joined the Technology Administration's Office of Technology Policy (OTP) on June 1, 2004. The TA/OTP Tech Team strives to maximize technology's contribution to U.S. economic growth, productivity, innovative capacity and global competitiveness. The office works closely with leaders from industry, federal labs and universities and state, federal and international governments on critical policy issues impacting technology creators and users. On July 13, 2004, Commerce Secretary Donald L. Evans named Daniel W. Caprio, Jr. to serve as the Commerce Department's Chief Privacy Officer (CPO). Caprio will oversee all Departmental activities related to the development and implementation of federal privacy laws, policies and practices. Prior to working at Commerce, Caprio served for the previous six years as Special Assistant and Chief of Staff to Federal Trade Commissioner Orson Swindle, where he worked as principal technology policy advisor with specific emphasis on information security, privacy, and global electronic commerce. In December 2001, Caprio was appointed to the United States Government Experts Group to revise the Organization for Economic Cooperation and Development (OECD) Guidelines for the Security of Information Systems and Networks. In December 2003, Mr. Caprio was named co-chairman of the National Cyber Security Partnership Awareness Task Force, a position he still holds. Prior to joining Commissioner Swindle's staff in January 1998, Mr. Caprio was a lobbyist for KPMG Peat Marwick. Mr. Caprio has a broad range of experience in the federal legislative and executive branches of government, having worked for a member of the U.S. Senate, a number of members of the U.S. House of Representatives, including Representative Frank R. Wolf (R-VA), and at the U.S. Department of Commerce where he directed Congressional Relations for the Economic Development Administration. Mr. Caprio worked in state government where he represented the State of Illinois and Governors James R. Thompson and Jim Edgar. Mr. Caprio is married with four children. He received his B.S. in Political Science from James Madison University.

Susan Chapman joined the General Motors Corporation in 1979 and is currently the director of Asia Pacific trade policy. She is responsible for the development and advocacy of GM's positions on trade issues for the Asia Pacific region in the WTO, APEC and other trade fora. Her portfolio also includes policy responsibility for e-commerce and privacy issues. Other positions held within the GM enterprise include: development, design and production of the GM Annual Report; support for the GM Board of Directors; strategic planning; product planning; and, market forecasting and production scheduling. Susan holds an MBA degree from Indiana University and a BA degree in public policy from James Madison College at Michigan State University.

Denton Clark is the RFID Integrated Process Team (IPT) lead, for Lockheed Martin Corporation. In this position, Mr. Clark has the overall responsibility for supporting the DoD Passive RFID development and implementation efforts across the Corporation. This includes a broad range of ongoing and prospective activities including ensuring the DoD Passive RFID Policy is compliantly implemented as well as integrating RFID technology horizontally across the corporation. In addition, Mr. Clark is responsible for assisting existing and prospective programs in evaluating and implementing RFID technology as a supply chain transformation tool. Denton's team has been working closely with the Office of the Secretary of Defense and the Defense Logistics Agency in the development and implementation of Passive RFID technology within the Department of Defense. This includes aligning Lockheed Martin's RFID implementation strategy with the Department of Defense's implementation strategy. Denton was most recently responsible for all business development efforts in support of the Lockheed Martin Maritime Systems and Sensors Line of Business in Moorestown, New Jersey. This included development and fielding of new ballistic-resistant products for the Department of Defense, Homeland Security as well as marketing of these products to local, state and federal customers. He managed a staff of sales agents and worked with contracted ballistic experts in the development and fielding of state-of-the-art ballistic-resistant products. In 1978, he began his career with the U.S. Navy in the area of test missile telemetric data technician, and fire control radar and computer technology. He maintained several positions of increasing responsibility in systems diagnostics, repair, and maintenance. Denton was also responsible for training the Ship's Self Defense Force as well as Nuclear Weapons Safety and Security Training Coordinator. In 1985, Denton joined RCA Corporation and was assigned the publications department for the AEGIS program. Denton again held increasing levels of responsibility to include leader of a Team of Technical Writers, Subcontracts Manager for technical publications and Information Technology Solutions, and Information Technology implementer. As a Subcontracts Manager, his responsibilities included developing a technical publication and Information Technology supplier base for Standard Generalized Markup and Extensible Markup Languages technologies. Denton was also the program manager for the Automated Maintenance Environment, a program designed to provide a virtual link between deployed U.S. Navy Combat Ships and on-shore engineering facilities.

Lori Denham is senior vice president of policy and planning for the Retail Industry Leaders Association (RILA). She is responsible for overseeing public policy development for RILA members, including RFID / EPC and international trade. Denham worked on Capitol Hill for more than a decade for Rep. Cal Dooley (D-CA) where she served most recently as Chief of Staff. Her leadership on Trade Promotion Authority and Permanent Normal Trade Relations for China were instrumental to their passage and she has been a key player in health care policy for more than a decade. Denham received a BA in History with a minor in

Comparative Literature from the University of California at Davis. She received her Masters in Public Administration from the George Washington University.

Eric Domski is the Global RFID Solution Director for SAP, Eric Domski is responsible for defining the vision and delivering RFID solutions which address vertical industry requirements, drive value for businesses and advance SAP's position at the forefront of providers of RFID applications. Since Joining SAP in 1996, Domski has held many leadership positions. Most recently, Eric held the position of Director of Consumer Products for SAP America, Inc., where his responsibilities include advising customers on SAP's Consumer Products industry solutions, coordinating SAP, partner, industry and solution resources and providing direction on all go-to-market programs. He has also held positions as the Director of Supply Chain Solutions, where he was responsible for the definition and roll-out of SAP's Supply Chain Management Solutions throughout the US. Domski sponsored SAP's CPFR certification and led the Customer Advisory Council in the development and prioritization of requirements for the Advanced Planning and Optimization application. Prior to joining SAP, Domski had more than six years experience in supply chain software industry, holding various sales, presales and consulting positions. Domski earned a Bachelor of Science degree in Industrial and Business Systems Engineering from Pennsylvania State University.

Jeff Fischer is the Chief RF Architect at Reva Systems. Mr. Fischer has worked for 25 years in electronic communications, has spent the past 2 years in intensive work with RFID. He has been deeply involved in the Hardware Action Group in EPCglobal and Co-chaired the Chicago Review Committee responsible for creating UHF generation 2 Class 1 protocol specification — widely known as Gen2. Mr. Fischer has worked with users and developers to bridge the gap between perceived requirements and practical technology developments leading to future RFID applications. He has worked with the FCC to enable the use of RFID transmissions in large scale deployments and has extensively analyzed and measured interference challenges inherent in this technology. He has served on the AFI committee chartered to resolve contentions between the EPCglobal and ISO standards bodies. Mr. Fischer brings a wealth of RF and communications experience to the RFID field. In the early 1980s while at MIT Lincoln Laboratory, Mr. Fischer developed high bandwidth signal processing for advanced packet radio networks used by DARPA and the U.S. ARMY. In the late 1980s and 1990s, while at MICRILOR, he created innovative designs that proved critical to the early development of the Wireless LAN industry, co-patenting technology that is the basis for the current IEEE 802.11b standard. And for three years, while at Proxim, he helped develop industry leading multi-protocol WLAN and bridging products. While at MIT Lincoln Laboratory, he published in the Transactions on Communications and Proceedings of the IEEE and gave a number of conference speeches. In 1996 Mr. Fischer was elected a Senior Member of the IEEE in recognition of his technical contributions to the field of communications.

John Healy serves as the CEO and Principal of 360Solutions Group. Known as “the walking encyclopedia” of RFID, pallets and containers and their roles as cornerstones of the supply chain, Healy is considered a leading global content expert on key logistics and supply chain issues. Areas of particular focus include RFID and sensor based technologies, supply chain visibility and monitoring, food safety and traceability, pallets and containers, logistics and supply chain strategies as well as the implementation of the homeland security, cargo and port security mandates in the post 9-11 environment and their respective impacts on global and domestic supply chains. Healy works with Fortune 1000 companies and industry associations. He provides an understanding of how these issues tie together within the supply chain and guides the development of the resulting strategies, policies and solutions. He has been directly involved in the successful implementation and roll-out of RFID pilot tests and full deployments of RFID and chain of custody processes and the integration of RFID solutions into various supply chains. He conducts research for industries to identify opportunities, benefits, challenges and policy and privacy impacts of RFID implementation within their respective supply chains and to determine the level of adoption of RFID technologies within their industrial distribution systems and supply chains. With more than 20 years of experience in the pallet & container, logistics, supply chain and transportation industries, Healy was CEO of the global pallet & container industry trade association that is focused on the manufacture, distribution, recycling and use of pallets and containers throughout the supply chain. He is the industry's leading spokesperson and content expert. He introduced the use of RFID technologies to the pallet and container industries to further improve the performance of the supply chain. Healy has identified and built a global network of the leading, best of breed information technology partners that provide 24x7 supply chain visibility using pallets and containers as the vehicle for the technology. These partners include technology companies that supply RFID hardware, middleware and software for data integration into existing enterprise systems. Healy now works with clients and industries to bring them up to speed on RFID, build viable pilots and deployments of RFID and chain of custody processes and plays the leading role in creating key partnerships and identifying strategic and tactical market moves for clients.

John Howells is the Director of Industry Relations for the Healthcare Distribution Management Association. John Howells has over 20 years of evaluating and implementing emerging technologies in the supply chain. John has numerous years of experience working for DuPont in a variety of industries. While at PriceWaterhouseCoopers (now part of IBM), he was one of the first to successfully implement Electronic Data Interchange (EDI) and SAP. As Director of Industry Relations at HDMA, his responsibilities include as Electronic Product Code (EPC) technical initiatives, co-coordinator of HDMA Business Technology and Logistics Operations committees. John has been active in EPC at the Auto-ID Labs and is active in developing the standards for EPC. He supports the HDMA committees, legislative and regulatory efforts with respect to technical implementation of EPC

in the healthcare supply chain among other strategic initiatives. John serves as co-chair the newly formed EPCglobal Healthcare and Life Sciences Business Action Group Technology Working Group.

Sandra Hughes (Sandy) serves as the Global Privacy Executive (CPO) at the Procter & Gamble Company, headquartered in Cincinnati, Ohio, USA. Procter & Gamble's privacy program has been designed and implemented to promote trust among consumers, employees and other constituencies by protecting individual's rights to privacy as we would our own. In this role, Sandy reports to the Vice-Chairman of the Board. As a member of P&G Corporate Strategy & Analysis, Sandy also has responsibility for the New Growth Area process and the Corporate Competitive and Technical Intelligence organization, whose objective is to build capability and understanding of P&G's competitive environment, while upholding compliance to high ethical intelligence collection. In both capacities, Sandy works in partnership with Global Information Security and Corporate Physical Security. Sandy is a Certified Information Privacy Professional (CIPP) and member of the board of directors for the International Association of Privacy Professionals. She is also a member of the executive committee of the Center for Information Privacy Leadership, and the Conference Boards of Chief Privacy Officers as well as Competitive Analysis. She is a founding member of the Public Policy Steering Committee of EPCglobal, a standards organization for Radio Frequency ID and has been active in creating guidelines and as a speaker on use of RFID item level tagging. Sandy's career spans 29 years at the Procter & Gamble Company, with assignments in the US (Ohio & Alabama), Germany and Belgium. Having an Information Technology background from Miami University (OH), she has worked with every business unit and most functions in P&G, and lead local, regional and global projects, specializing in business process re-engineering.

Sue Hutchinson is the Director of Product Management for GPCglobal US. She joined EPCglobal US in April 2003, bringing with her more than 18 years of experience in high tech product management and technology transfer. Her specialties include product and portfolio planning, customer relationship management, and analytics and database marketing. As Director of Product Management for EPCglobal US, a division of the joint venture between the Uniform Code Council (UCC) and EAN International, Ms. Hutchinson is responsible for the Solution Partner Program and for building subscriber services for the many hardware and software companies joining the EPCglobal US community. Prior to joining EPCglobal US, Ms. Hutchinson served as senior solutions manager at Avaya, Inc. There she led the design and delivery of integrated contact center solutions. Other previous employers include NCR Corporation, Data I/O Corporation and Mathsoft, Inc. Ms. Hutchinson earned a bachelor's degree in management science and a master's degree in industrial and management engineering at Rensselaer Polytechnic Institute in Troy, New York. EPCglobal is a joint venture between EAN International and the UCC. It is a not-for-profit organization entrusted by industry to establish support of the EPC Network. Its mission is to establish and support the EPC Network as the global standard for real-time, automatic identification of any item in the supply chain of any company, anywhere in the world.

Fraser Jennings is Vice President of Standards and Regulatory Activities for Savi Technology, Fraser Jennings is responsible for ensuring regulatory and standards compliance, as well as identifying and executing plans for developing emerging standards in the RFID market, including ISO and EPC global activities. He is also responsible for working with regulatory bodies to help influence modifications to established regulations for RFID technology. Mr. Jennings has extensive knowledge of RFID and related applications. He has held a number of increasingly responsible management positions since joining Savi Technology in 1995. Prior to his current position, he was Savi's Vice President of Hardware Product Management, Deputy General Manager for Government Operations and Program Manager for the company's contract with the U.S. Department of Defense. Mr. Jennings held the rank of Lieutenant Colonel (USAF) after serving 24 years in a number of capacities for the military, including Acquisition (Program Management, Contracting), Education and Training and Missile Operations. Mr. Jennings earned a degree in Business Administration from the University of La Verne and an MBA from the University of South Dakota.

Burt Kaliski is vice president of research at RSA Security and chief scientist of its research center, RSA Laboratories, where he works to transform promising technologies into competitive advantages for the company and its customers. Burt joined RSA Data Security in 1989 when it was a startup, and in 1991 helped launch RSA Laboratories as an academic environment within RSA Data Security. (RSA Data Security was acquired by Security Dynamics in 1996; the merged companies were renamed RSA Security.) Since 1991 he has been chief scientist of RSA Laboratories, leading a group of applied researchers and standards developers that has produced a range of new concepts and technologies. In 2004 he was promoted to the additional role of vice president of research for RSA Security. Burt has also been involved extensively in the development of cryptographic standards. During the early days of RSA Laboratories, he coordinated the development of the Public-Key Cryptography Standards (PKCS), working with major early adopters of public-key cryptography. From 1993-99, he served as chair of the IEEE P1363 working group, which developed a standard, IEEE Std 1363-2000, covering the three main families of public-key cryptography. From 1999-2004 he was the editor of the recently published IEEE Std 1363a-2004 document. He has also served as the editor of ANSI X9.44, the emerging banking standard for key establishment based on the RSA cryptosystem. Burt is an author of several Internet RFCs. Burt's research interests over the years have included public-key cryptography, efficient implementation of cryptographic algorithms, block cipher cryptanalysis, elliptic curve cryptography, user authentication, and privacy protection. He is an inventor on eight patents with several others pending. Burt has served as general chair of CRYPTO '91 and program chair of CRYPTO '97 and CHES 2002. He has participated on program committees for several major conferences, and on the editorial board of ACM TISSEC. He is currently on the advisory board for the forthcoming Encyclopedia of Cryptography and Security to be

published by Kluwer. He has been a frequent speaker at industry conferences and was an invited speaker at ASIACRYPT '98, and has more than 20 conference and journal publications. Burt was one of 11 winners of the 2003 New England Business and Technology Award. Burt received his bachelor's, master's and Ph.D. degrees in computer science from MIT, where his research focused on cryptography. Prior to joining RSA Data Security, he was a visiting assistant professor of computer engineering at Rochester Institute of Technology. He is a member of the IEEE Computer Society and the International Association for Cryptologic Research.

Tom Kellermann is the Senior Data Risk Management Specialist in the Integrator Unit and member of the World Bank Treasury Security Team. Along with Thomas Glaessner and Valerie McNevin, he co-authored the book *E-safety and Soundness: Securing Finance in a New Age* and the White Paper, *E-security: Risk Mitigation in Financial Transactions*. Tom is also the author of numerous World Bank white papers on cyber security: *Mobile Risk Management; Capital Markets and E-fraud; The Digital Insider; Phishing in Digital Streams; Bots: Cyber Parasites; Zero Day; and Money Laundering in Cyberspace*. Tom is responsible for Cyber-intelligence and policy management within the World Bank Treasury. Tom regularly advises central banks around the world per their cyber-risk posture and layered security architectures that can enhance the security of their large value payment systems and retail payment systems. While working for the World Bank, Tom serves as a member of the New York Chapter of Infragard, the New York Electronic Crimes Taskforce and is an active member of the American Bar Association's working group on Cyber-crime. Tom is also a member of the Department of Homeland Security's *Emerging Threats Roundtable*. Tom attended the University of Michigan, earning two bachelors degrees—in International relations and Psychology. He then went on to pursue his Master's degree in International Political Economies at the School of International Service at American University, where he wrote his thesis entitled: *The Illicit Transnational Corporation*. His master's thesis depicted the metamorphosis of organized crime through the global proliferation of technology. Tom is a Certified Information Security Manager (CISM).

John M. R. Kneuer serves as the Deputy Assistant Secretary of Commerce for Communications and Information and Deputy Administrator of National Telecommunications and Information Administration (NTIA). Mr. Kneuer joined NTIA in October 2003. Prior to joining NTIA, Mr. Kneuer served as a senior associate at the law firm of Piper Rudnick in Washington, D.C., providing regulatory and legislative representation to corporate clients in the telecommunications, defense, and transportation industries. Prior to that, Mr. Kneuer was executive director for government relations at the Industrial Telecommunications Association, and an attorney-advisor in the Commercial Wireless division of the FCC's Wireless Bureau. Mr. Kneuer received B.A. and J.D. degrees from the Catholic University of America. He is a member of the District of Columbia and New Jersey state bar.

James Andrew Lewis is a senior fellow and director of the CSIS Technology and Public Policy program. Before joining CSIS, he was a career diplomat who worked on a range of national security issues during his federal service. Lewis's extensive diplomatic and regulatory experience includes negotiations on military basing in Southeast Asia, the Cambodia Peace Process, the Five Power Talks on Arms Transfer Restraint, the Wassenaar Arrangement, and several bilateral agreements on security and technology. Lewis was the head of delegation, Wassenaar Experts Group for advanced civil and military technologies, and a political adviser to U.S. Southern Command (for Just Cause), to U.S. Central Command (for Desert Shield), and to the U.S. Central American Task Force. He was responsible for the 1993 redrafting of the International Traffic in Arms Regulations, the 1997 regulations implementing the Wassenaar Agreement, numerous regulations on high-performance computing and satellites, and the 1999 and 2000 regulations liberalizing U.S. controls on encryption products. Since coming to CSIS, he has authored numerous publications, including *Globalization and National Security* (2004), *Spectrum Management for the 21st Century* (2003), *Perils and Prospects for Internet Self-Regulation* (2002), *Assessing the Risk of Cyber Terrorism, Cyber War, and Other Cyber Threats* (2002), *Strengthening Law Enforcement Capabilities for Counterterrorism* (2001), *Preserving America's Strength in Satellite Technology* (2001), and *China as a Military Space Competitor* (forthcoming). His current research involves digital identity, innovation, military space, and China's information technology industry. In 2004, Lewis was elected the first chairman of the Electronic Authentication Partnership, an association of companies, nonprofits, and government organizations that develops rules for federated authentication. He received his Ph.D. from the University of Chicago in 1984.

Mark MacCarthy joined the Visa management team in June 2000 as Senior Vice President for Public Policy. He represents Visa before Congress, the Administration, the Federal Trade Commission, the banking regulators and other regulatory agencies. He is responsible for Visa's public policy initiatives and strategies, with particular emphasis on electronic commerce, information security and privacy. He regularly testifies on behalf of Visa before various Congressional committees and regulatory agencies. Mark MacCarthy has 25 years of experience in Washington DC public policy making and government affairs. Prior to joining Visa U.S.A., MacCarthy was a principal and senior director with the Wexler Group, a Washington government affairs consulting firm, where he worked with a variety of clients on electronic commerce, privacy and telecommunications. He was Vice President in charge of Capital Cities/ABC's Washington office from 1988 to 1994. From 1981 to 1988 he was a professional staff member of the House Committee on Energy and Commerce, where he handled communications policy and other issues for the Chairman of the Committee, Representative John D. Dingell. During the Carter Administration, Mr. MacCarthy worked as an economist at the U.S. Occupational Safety and Health Administration. Mr. MacCarthy has a Ph.D in philosophy from Indiana University and

an MA in economics from the University of Notre Dame. He has published a number of articles on government regulation, and has taught at Notre Dame and Maryland University. Since 1999, he has been an adjunct faculty member at Georgetown University's Communication, Culture, and Technology Program, where he teaches courses on the economics of network industries and public policy toward network industries.

Paul G. Martino recently joined the Washington office of Alston & Bird, LLP, a Counsel in its Legislative and Public Policy Group. Paul's practice focuses on representing companies and other organizations in their legislative and public policy initiatives on issues involving the Internet, e-commerce, privacy, telecommunications, and intellectual property. Prior to joining the firm, Paul was a majority counsel for the U.S. Senate Commerce Committee from June 2001 to January 2005, where he served as a principal advisor on Internet, telecommunications and copyright policy to former Chairman John McCain (R-AZ). Paul also provided legislative analysis and assistance on these issues to the other Republican members of the Committee and their staffs. During his tenure in the Senate, Paul was the lead Senate Commerce counsel on most Internet and business technology matters, including consumer protection issues arising from the use of online services. In particular, Paul was the lead counsel on a range of privacy issues, from e-commerce privacy matters such as online privacy, radio frequency identification (RFID) privacy, spyware, and spam, to homeland security initiatives such as national intelligence information sharing, data mining, and the Computer Assisted Passenger Prescreening System (CAPPS II). Paul also served as the lead Republican Commerce counsel and principal advisor to Senator McCain on digital media issues and related intellectual property matters. In addition to the above matters, Paul worked on a wide array of telecommunications issues for the Subcommittee on Communications, including Internet advertising, junk fax prohibitions, telecommunications and universal service reform, broadband deployment, Internet access issues, voice over Internet Protocol (VOIP), the digital television transition, and wireless matters such as spectrum allocation, ultrawideband, Wi-Fi, number portability, wireless 411 directory assistance privacy, and E-911 implementation. Prior to working in the Senate, Paul counseled a variety of private and public technology companies in Silicon Valley on corporate and transactional matters from 1994 until 2001. Before starting his own business consulting practice there in 1999, Paul was a founding corporate associate of the law firm of Gunderson Dettmer (in Menlo Park, California) and, prior to that, was a business and technology associate with the law firm of Brobeck, Phleger & Harrison (in Palo Alto, California). Paul earned his bachelor's degree in Government at Georgetown University, graduating *magna cum laude* and Phi Beta Kappa, and earned his law degree at the University of California at Berkeley, Boalt Hall School of Law.

Michael Ricciardelli is the Program Manager for the EPC Network Services team at VeriSign. He is responsible for the relationship with EPCglobal, Inc and manages the various resource teams that deliver services and support. Mr. Ricciardelli also manages the Root ONS and Managed ONS products for VeriSign where he conceptualizes and develops new product feature sets and go to market strategies. Prior to joining VeriSign, Michael worked for MasterKey Resources, LLC, a consulting firm under contract with the Department of Justice, Office of Justice Programs. Mr. Ricciardelli served as a program manager consultant to the CIO's office. He brings to VeriSign 19 years of IT industry experience spanning the health care, automotive and internet industries. Mr. Ricciardelli holds a Bachelors of Business Administration degree from the University of San Diego with a minor in Leadership.

Elliot E. Maxwell advises public and private sector clients on strategic issues involving the intersection of business, technology, and public policy in the Internet and E-commerce domains. He is a Fellow of the Communications Program at Johns Hopkins University, and Distinguished Research Fellow at the eBusiness Research Center of the Pennsylvania State University. He also advises EPCglobal, the entity implementing the Electronic Product Code version of radio frequency identification (RFID). From 1998 until 2001, Maxwell served as Special Advisor for the Digital Economy to U.S. Secretary of Commerce William Daley and U. S. Secretary of Commerce Norm Mineta. In this position he was the principal advisor to the Secretary on the Internet and E-commerce. He coordinated the Commerce Department's efforts to establish a legal framework for electronic commerce, ensure privacy, protect intellectual property, increase Internet security, encourage broadband deployment, expand Internet participation, and analyze the impact of electronic commerce on all aspects of the economy. He was deeply involved in the development of E-government activities and was a founding member of the Federal Interagency Working Group on Electronic Commerce. After leaving the government he was Senior Fellow for the Digital Economy and Director of the Internet Policy Project for the Aspen Institute's Communications and Society Program. The Communications and Society Program focuses on the impact of communications and information technologies on democratic institutions, the economy, individual behavior, and community life. Previously, Maxwell worked for a number of years as a consultant and as Assistant Vice President for Corporate Strategy of Pacific Telesis Group where he combined business, technology, and public policy planning. He served at the Federal Communications Commission as Special Assistant to the Chairman, Deputy Chief of the Office of Plans and Policy, and Deputy Chief of the Office of Science and Technology. Maxwell also worked for the U.S. Senate as Senior Counsel to the U.S. Senate Select Committee on Intelligence Activities. Maxwell graduated from Brown University and Yale University Law School. He has written and spoken widely on issues involving the Internet, electronic commerce, telecommunications, and technology policy. His most recent work, "Promoting Innovation and Economic Growth: The Special Problem of Digital Intellectual Property," was issued by the Committee for Economic Development. His study of Internet Governance "Rethinking Boundaries in Cyberspace," written with Erez Kalir, was published by the Aspen Institute.

Tom McAuliffe is Vice President of Strategy and Business Development for Secure Asset Solutions (SAS). SAS was created to address the need for improved productivity and security in the global supply network. SAS will provide solutions that give increased visibility into asset location and status, and use that information to reduce costs, increase sales, and reduce the risk of supply chain disruptions. Tom has been at Motorola since 1989, and has held a number of other positions at both corporate and business unit levels in strategy, business development and operations. Prior to Motorola, Tom held product management positions at AT&T in the area of data communications and data networking. He began his career in Bell Laboratories as a software developer for electronic switching systems.

Susan McDonald is a Legal advisor for the Federal Trade Commission's International Division of Consumer Protection. Ms. McDonald joined the FTC in 2003, where she worked for the Division of Financial Practices on privacy and security matters. There, Susan's work involved enforcement of the Commission's Privacy and Safeguards Rules under the Gramm-Leach-Bliley ("GLB") Act and various matters concerning the recent Fair Credit Reporting Act ("FCRA") amendments. Currently, Ms. McDonald works on domestic and international issues related to Radio Frequency Identification ("RFID") technologies and works with U.S. and foreign officials to improve international law enforcement cooperation against cross-border fraud and deception. Prior to working at the FTC, Ms. McDonald was an attorney at a Washington D.C. law firm, where she worked on privacy and antitrust matters.

Steve Miles leads the Web Services WAN Special Interest Group, a research consortium at Auto-ID Labs formed to address industry requirements for web services specifications to share Electronic Product Code (EPC) and Sensor Data between participants in a collaborative supply chain. Prior to joining Auto-ID Labs Steve was enrolled in the Management of Technology executive program at MIT Sloan and served as a consultant in Value Added IP Services Strategy to leading service providers in the US and Europe including British Telecom and Orange. Before MIT Steve was Co-founder and Vice President of Business Development at Wireless IP Networks, a 3G softswitch start-up. Previously Steve served as Vice President of International Sales with IronBridge Networks, the terabit router OEM. Steve's team is credited with designing beta trials for the first generation core IP MPLS networks with Deutsche Telekom, France Telecom, Telecom Italia and for integrating the first systems with Energis in the UK. IronBridge parent Newbridge Networks was acquired by Alcatel in 2001. For over four years Steve served in a variety of executive roles with NMS Communications (NMSS), a supplier of Windows and UNIX based enabling technology to wire line and wireless OEM's including Alcatel, Ericsson, Lucent, NTT, Siemens; NMS grew from \$20M to \$250M during this period. Steve supported the acquisition of a 50 person French company, expanded Asian operations in Hong Kong, Singapore, Beijing, and was General Manager of a team in Latin America, where he led NMS in a \$40M partner project for Embratel consisting of a (2000) E1 trunk Enhanced Services Platform for (45) largest cities with SS7 switching and VoIP call centers. Steve was Founder and President of Officenet Inc., a computer services company with customers including American Express and General Electric, which he sold to Decision One in 1996. Steve served as founding member of The National Computer Services Network IWSA Chapter and as executive committee member of the AFSM Minuteman Chapter. Steve participates in W3C, OASIS and WS-I standards organizations and is a frequent speaker at RFID Conferences. Steve has served as President and Board Member for a variety of non profits including the Cambridge Early Music Society, the Ipswich Historical Society, the Ramallah Friends School, the Latin America Business Council and chairs the MIT Enterprise Forum RFID SIG.

Gaylon Morris is the Director of Wireless and RFID Programs at the EMC Laboratory. He also serves as the General Manager of West Coast operations. Gaylon has added value to the MET Laboratories team since 1999 when he first started. A veteran of the US Navy Nuclear Power Program he served on the USS Boise (SSN-764). He graduated with a Baccalaureate of Science from the University of the State of New York.

John Parkinson is a Vice President and the Chief Technologist for Capgemini's Americas Region. He is a member of the Group's Office of the CTO, developing strategy and setting direction for Capgemini's portfolio of Technology Consulting offers, promoting Technology Innovation, working with early adopter clients and influencing career and competency models for Capgemini's technology consultants. He is also a member of the firm's North American business strategy working group. Previously he was a Senior Partner in the Strategy & Corporate Development Group at Ernst & Young LLP and the Director for Innovation and Strategy for E&Y in the Americas Region. He joined E&Y in the UK in 1985 and moved to the USA in 1991. John has degrees in Mathematics and in Information Sciences from Exeter University, UK. He has been involved with the information technology (IT) business since 1969 and has worked in virtually all roles within IT from programmer to general manager of a software house. An example of his work is included in the Computerworld-Smithsonian collection. He has written or edited four books on information systems development and has contributed over 40 papers to conferences and journals. He writes a bi-monthly column – Strong Signals – for CIO Insight and is a member of their editorial advisory board. He is a frequent speaker at international meetings on Innovation, technology strategy; emerging technologies and related topics. In 2003, he was named by Global Consulting News as one of the world's 25 most influential consultants. In 2004 he was named as Co-chair of the ITAA Committee on RFID and the Chair of the ITAA Task Group on Public Policy Formulation for RFID. In January 2005 he was named as one of the Computerworld Premier 100 Leaders in IT.

Alex Pang is a research director at the Institute for the Future, a Silicon Valley think-tank, where he conducts research on emerging technologies and their social impacts. His work on RFID is part of a broader effort to map the future of pervasive computing, the death of cyberspace, and merger of digital and physical worlds. Alex holds a Ph.D in history of science from the University of Pennsylvania.

John Phillips is Vice President, Customer Supply Chain and Logistics for PepsiCo, Inc. His previous assignment was Vice President of Customer Delivery Systems for Frito-Lay North America where he led the development and implementation of new DSD delivery systems and the development of the next generation of frontline handheld computers for the DSD sales force. John joined Frito-Lay in 1986 as a route salesperson and has worked in a number of different sales and field operations roles. Prior to joining PepsiCo, John spent ten years on the retail side with Jewel Food Stores in Chicago, and was also a Territory Sales Representative for Procter & Gamble. John attended Western Michigan University where he received a Bachelor of Science in Food Distribution in 1986.

Laxmiprasad Putta is the co-founder and Chief Executive Officer of OATSystems, the recognized RFID framework leader to global companies. In his role, Putta is responsible for defining and instilling the company vision, product planning and day to day operations. Putta brings extensive experience in supply chain management, ecommerce, computer aided design and data management systems to help customers solve business problems. He has grown OAT from a company of two to over 100 people in the US, Europe and Asia. Prior to starting OAT, Putta played a pivotal role at the MIT Auto-ID Center architecting the software infrastructure needed to manage EPC data coming from RFID readers. Through his ground-breaking work with corporate members, Putta gained experience building and delivering supply chain solutions that would enable early adopters to get the most out of their RFID investment. In 1999 Putta co- founded Auripay, a pioneer in secure payment systems for e-commerce transactions. Under his leadership, Auripay raised financing, grew the management team and delivered software that was licensed by the major credit card issuers to enable their customers to conduct secure and anonymous e-commerce transactions. The company was later sold to Cyota. Putta developed a strong background in supply chain management, B2B transactional systems, manufacturing and distribution systems as a senior consultant at i2 Technologies. Prasad holds a masters degree in mechanical engineering from MIT and an undergraduate degree from the Indian Institute of Technology in Madras, India. He is a frequent speaker on RFID issues at leading industry events and is a published author of many research papers.

Scott Silverman has served as Chairman of the Board and CEO of Applied Digital since March 2003, orchestrating a major turnaround of the company, including the satisfaction of a \$100 million debt obligation and a significant strengthening of its balance sheet. Previously, Mr. Silverman served as President, and was appointed to the Board of Directors in March 2002. Prior to his tenure at Applied Digital, Mr. Silverman operated his own private investment-banking firm, and also served as President of ATI Communications, Inc., a full service telecommunications solution provider. Previously, he specialized in commercial litigation and communications law at the law firm of Cooper Perskie in Atlantic City, New Jersey, and Philadelphia, Pennsylvania. Mr. Silverman is a graduate of the University of Pennsylvania and Villanova University School of Law.

Pamela Stegeman is the Vice President of Supply Chain and Technology for GMA. Pamela directs initiatives on Data Synchronization, Implementation of Electronic Collaboration, Global Standards, and Electronic Product Code/RFID. She is a co-chair of the EPC Alliance, a member of the GCI Executive Board, and a participant in the UCC Board. In addition, she assists in management of the Industry Affairs Council and the Future Forces Roundtable. Prior to her current role with GMA, she was Vice President, Industry Affairs, where she managed marketing, GMHBC, and industry relations initiatives. Prior to joining GMA, Stegeman served as Vice President, Marketing for US Office Products Company, where she worked with subsidiary companies to develop common vision, business models, and unique selling propositions. Prior to this, Stegeman was the Senior Marketing Manager for Colgate-Palmolive Company where she worked on global new product launches, product Master File development in their SAP implementation, and managed package design department as well as the development of all new packaging initiatives. Stegeman also worked for the Sprint Corporation as Group Manager, Prepaid Card Strategic Marketing. She started her career as an intern for The Procter & Gamble Company in 1989 and worked her way up to Assistant Brand Manager, Duncan Hines, where she managed the entire frosting business. Stegeman received her MBA from the Johnson Graduate School of Management, Cornell University, in 1990. She participated in the Executive Education Program at the University of Virginia and received her B.A. in Government from Hamilton College in New York.

Ted Tanner is part of the team which deals with technical policy. He is the Microsoft Corporation representative to the National Security Telecommunications Advisory Committee (NSTAC) Research and Development Taskforce and is a member of the Audio Engineering Society and IEEE. He joined Microsoft in 2000 when Microsoft purchased MongoMusic where Ted was a Vice President. At MongoMusic he directed all aspects of machine listening, signal processing research, intellectual property management and venture capital assessment. He has also worked at Apple Computer Inc. where he worked on future media processing architectures for OS9 and OSX, and at Spatializer Audio Laboratories, Crystal River Engineering and digidesign inc. Ted has published numerous articles in leading technical magazines. He has applied for several patents in the area of audio and media technologies. He holds a Master of Science in Music Engineering from the University of Miami and has taken post graduate courses at various Universities including Stanford, Berkeley and UC Davis.

Nicholas Tsougas currently serves as Lead Technical Advisor for emerging Technologies, and as a Senior Logistics Analyst for the DOD Automatic Identification Technology (AIT) Office working for SRA International. He was recently promoted to Principal. He and his team have successfully performed a wide variety of projects including strategic planning, business process reengineering, Joint Operations, DOD Policy and Regulations for AIT, Standardization of data across AISs, software asset management, system development, financial analysis, Automated Data Capture, Electronic Product Code (EPC) passive RFID, RFID Architecture, passive and active RFID- Policy and applications/implementations in the Supply Chain, Satellite tracking, DOD Wireless policy, acquisition policy & planning, Program Management, facilitation of cross functional teams, functionality assessments, web site development, budget/logistics/contracts and Supply Chain Management. Nick began his professional career with the U.S. Navy, and served in a wide variety of domestic and international Supply Chain Management leadership positions.